Remarks

Claims 1-5 and 8-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. in view of Grivna et al. and further in view of Darcie et al.

This rejection is improper and should be withdrawn.

All claims require either:

1. "...a monitoring device being additionally provided at the receiver side which, independently of the modulation of the receive signal, monitors and records the presence or absence of transmitted input signal as a signal monitoring output and displays it at a signal monitoring device, wherein, transmitter side, a device is provided for clock-pulse-controlled lowering and raising of intensity of transmitted light energy, the intensity of the transmitted light energy in the lowered state being below a threshold value at which the monitoring device records the presence of a data transmission signal and the intensity of the light energy in a raised state being above a threshold value at which the monitoring device records the presence of a data transmission signal to obtain an encoded output signal encoded in correspondence with the lowering and raising of intensity of transmitted light energy, and an evaluation device being provided for the evaluation of the output signal encoded corresponding to the raising and lowering of the transmission signal" ; or

2. "...lowering intensity of light at the transmitter side so far below a minimum threshold value of signal amplitude used for the data transmission that the signal monitoring output at the receive-side end records and displays a missing input signal of the light receive element;

again raising emitted light intensity above the threshold value ;

and repeatedly the lowering and raising of the light intensity in time cycle in encoded form to provide an encoded signal monitoring output ; and

evaluating the encoded signal monitoring output by a corresponding evaluation logic."

Such an arrangement or method step is not disclosed or suggested by any of the cited references or their combination no matter how they are combined.

The Examiner's rejections are based on an impermissible hindsight and even when the combination is made it does not disclose or suggest the present invention.

None of the cited prior art documents concerns the same or even a similar purpose as the present invention, namely to provide an extra data channel which is not available under normal operation (data transmission) but only in situations, where the ordinary data channel may not be functionable for any reason.

In the present invention, the monitoring unit for monitoring the presence of any incoming signal at all is used as a "data receiver" in that the transmitted signal is raised and lowered beyond the threshold value of the monitoring unit in an encoded manner such that the output of the monitoring unit may be evaluated by a corresponding device (which may include software in conjunction with physical apparatus) which interprets the output of the monitoring unit as data being transmitted thereby, even if at a slow rate.

Considering Yoshida, this document might suggest some hardware required for carrying out the method according to the present invention but not arranged in a manner or including software that permits analysis of the data transmission system even when faulty or missing data is involved in the normal data channel. Standard hardware devices can be used in a large variety of methods, wherein of course the normal use thereof is that data are transmitted through the ordinary lines, while the monitoring unit (signal detection section) is just a safety means which may cause a disconnection of a (back) transmission line, if no incoming signal is detected, thereby assuming that a dangerous, open end transmission line status may have occurred. Such a prior art arrangement has no way to check the problems with the line and certainly cannot correct a problem.

Of course, it may be accepted that the signal detection section recognizes, if the signal falls below a certain threshold value and in particular whether there is no signal at all and then shuts of the main transmission line. This is just the common purpose and function of such a monitoring unit with no further link to the present invention.

Grivna et al. disclose an optical data transmission device comprising transmitting data through a first physical channel of a connector. The system further includes a detector which

receives a status signal via a second physical channel. A controller is provided and is configured to adjust the power of the first transmitter in response to the status signal as received by the detector via said second physical channel. This is nothing but the separation of payload and status signals through different channels. The second channel for transferring status information may have a reduced bandwidth such that eye safe, non-coherent light may be used instead of a laser beam. **The status channel of Grivna et al. is a permanently functionable extra channel and the status information is only used to adapt the strength of the data signal to what is actually needed for the ordinary data transmission, in order to save some energy. The present invention does not require a "permanently functionable extra channel".**

Grivna et al does not alter any principle of data transmission as an optical signal with different logical levels which are both above a certain threshold value. There is no indication in Grivna et al., of using a monitoring unit which recognizes, whether or not a signal falls below a certain threshold value below which the receiver would not be able to recognize any signal. There is also no indication or motivation how and with respect to which features the device of Grivna et al could be reasonably combined, for any purpose, with Yoshida to obtain the unique and non-obvious invention currently claimed, that monitors data transmission by obtaining data with respect thereto in addition to the mere presence or absence of a signal at the receive end and certainly not with using a separate dedicated data line for such monitoring.

The US patent to Darcie discloses the use of an interrogation signal, on the normal data transmission line, which is transmitting in periods of inactivity, i.e. no data are being transmitted. The interrogation signal is looped back at the receiver end but may also be received on the receiver side without being returned which the transmitter then takes as an indication that the data transmission should start again. Again, presence or absence of signal only without otherwise useful monitoring.

The respective documents use threshold values merely either for different states of the signals and/or for the detection of whether a signal is being sent at all.

The Examiner's analysis is thus a collection of features from each of the said documents which is clearly guided by impermissible hindsight, as said particular combination of features is

never taught nor suggested by any of these documents or any reasonable combination thereof by a skilled person to obtain data monitoring by detecting whether a signal is above or below a predetermined threshold value to obtain a slow data input, independent of the normal data transmission, at low frequency time intervals.

The present subject matter includes a method which defines particular steps to occur in a particular order and interrelation, wherein particular pieces of hardware are required and used in a very specific manner. The mere fact that the similar hardware is used in the prior art for different purposes and that some individual dissected method features are disclosed in any of these documents, does not render the claimed combination obvious. For instance the Examiner states under 6 on page 5, lines 4 to 8, that Yoshida discloses that a lowering of intensity of light at the transmitter side is done by shutting of the transmitter semiconductor laser power but did not specifically disclose that the resulting zero intensity output is below a minimum threshold value of signal amplitude used for a data transmission.

The willful context in the second part (marked by underlining) insinuates that Yoshida discloses a deliberate lowering of the intensity of light at the transmitter side to zero or any minimum as any signal ("signal amplitude") at all to the which is not at all intended or disclosed by Yoshida. Yoshida provides a safety feature by shutting off the transmitter semiconductor laser power in a situation where a missing signal by the detector or receiver portion seems to indicate that a transmission line may be open ended which might cause a dangerous situation. A shut off for safety purposes should not be mixed up with giving any signal at all.

Yoshida does not only "not specifically disclose" that the resulting zero intensity output is used for a data transmission but rather doesn't consider any transmission in that situation at all. In particular, Yoshida does not mention any repeated on/off switching of the laser power but simply describes a complete shutdown in a particular situation without any information being transmitted and there is no information at all at the opposite end whether the line is broken or the transmission has been stopped. IN particular, Yoshida starts out from the assumption that the line is open ended (i. e. not connected to a receiver) anyway.

Yoshida thus actually teaches away from the present invention by teaching that the entire system should be shut down in the even that a signal drops below a threshold value rather than using alternate drops below a threshold value and elevations above it as a means for obtaining information on the system which then can be corrected. Yoshida thus not only does not suggest the presently claimed invention but is the antithesis of it.

The disclosure of Grivna adds nothing to Yoshida and its combination is again based upon impermissible hindsight and even if combined suggests nothing concerning raising and lowering of transmission with respect to a selected threshold to obtain system information. Grivna provides an adjustment of a laser power required for transmission depending on the actual situation (not data interpretation based upon raising and lowering transmission with respect to a threshold levels at low frequency time intervals) Grivna makes adjustments based upon known parameters, not data determined ones, e.g., depending on the distance between transmitter and receiver, the number of intermediate amplifiers etc. However, the adjustment always occurs such that at the receiving end there is enough laser power above the threshold value which would indicate a lacking transmission. Grivna does not disclose or suggest lowering the power below such a threshold value to obtain system information.

For a skilled person there is also no sense or reason for combining Yoshida and Grivna except for a simple addition of both inventions, wherein the normal data transmission would occur with adjustable laser power according to Grivna et al., while lacking a signal at the receiver end would simply result in a complete shutoff of the transmission of laser power with gathering information on the system for adjustment or correction.

As already stated Darcie provides an interrogation signal which, however, would be completely void when using the second channel according to Grivna, wherein no interrogation signal would be needed if the start of any data transmission could be notified via the second channel of Grivna et al. In contrast, the present invention requires only a single line or data transmission and the possibility to bandwidth channelled render the interrogation signal of Grivna void. Also a combination of Yoshida and Darcie would at best avoid a complete shut

down of the transmitter as long as said interrogation signal is received, but would never result in the output of the monitoring device being used as a further channel for encoded information.

From the applicant's view, if honestly assuming that a skilled person has no knowledge about the presently claimed invention, it appears to be impossible that such a person would or could combine the cited prior art references so as to arrive at the instant invention. Even if such a combination could be properly made, there is simply no teaching or suggestion in such a combination that the output of the monitoring device should be triggered such as to yield encoded information.

In contrast, the method according to the present invention only require:

- a single data line
- the possibility to deliberately lower the intensity of the laser power below a threshold value which is used for determining a lacking signal
- an evaluation unit and software evaluating the output of the monitoring device as an encoded signal on basis of a repeated lowering and raising of the transmitted laser power beyond the threshold value in a well-defined timely succession.

In particular the latter feature is not taught or suggested by any of the above cited documents.

The rejections should be withdrawn.

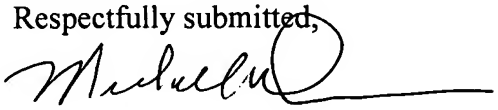
Claims 6 and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. in view of Grivna et al. and further in view of Darcie et al. and further in view of Gavik.

Gavik does not cure any of the critical defects of Yoshida et al., Grivna et al. and Darcie et al., previously discussed. The mere disclosure by Gavik of start and stop bits in an unrelated system cannot cure the critical defects in the other cited references of failing to disclose or suggest the periodic use of a threshold in a normal data channel, where the signal is periodically intentionally above and below the threshold, to obtain system information that can be used to adjust or correct the system rather than simply shutting it down.

The rejection should be withdrawn.

In view of the foregoing amendments and remarks, it is submitted that all claims are in condition for allowance which action is courteously requested.

Respectfully submitted,



Michael L. Dunn
Registration No. 25,330
Simpson & Simpson, PLLC
5555 Main Street
Williamsville, NY 14221-5406
Telephone No. 716-626-1564

MLD/mjk

Dated: January 29, 2009

Attachment

Appendix

Replacement Abstract

A method for the transmission of information via an optical data transmission line having a transmitter side and a receiver side, a light source which is modulated to carry information through a light signal by data transmission being provided transmitter side, and a light-sensitive receive element, for converting light to an electrical signal that varies with intensity of light received by the receive element being provided receiver side, repeatedly the lowering and raising of the light intensity in time cycle in encoded form to provide an encoded signal monitoring output and evaluating the encoded signal monitoring output by a corresponding evaluation logic in a timed cycle separate from normal data transmission and apparatus for practicing the method.